

## **ABSTRACT OF THE DISCLOSURE**

Disclosed is an adaptive transmit and receive method and device in a multiple-antenna wireless communication system. A transmit mode comprises different main transmit modes each of which includes one or both of a sub-transmit mode based on STBC and a sub-transmit mode based on SM. A receiver calculates an STBC performance parameter and a SM performance parameter, and a transmitter uses the parameters to determine a main transmit mode with maximum data rates and select a sub-transmit mode for minimizing power consumption. The transmitter channel-encodes, modulates and antenna-maps input data according to the selected transmit mode, and outputs results to the receiver. The receiver antenna/symbol-demodulates and channel-decodes the received data.